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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/028,730

10/19/2001

Michael Collins

00-682

4112

7590

06/11/2010

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EXAMINER

BAYOU, AMENE SETEGNE

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

06/11/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/028,730	Applicant(s) COLLINS ET AL.	
	Examiner AMENE S. BAYOU	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 8-16, 25 and 33-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 17-24, 26-32 and 37-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/05/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

3DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7,17-21,23,24,26-29,30,31,32,37-42 are rejected under 35 U.S.C. 102 (e) as being anticipated by Street et al (6332327).

3. In re claims 1-5 ,37 and 38 Street et al disclose an intelligence control for refrigeration system including:

- An apparatus for monitoring a **compressor (14A)** , **figures 1 and 2** , comprising: a **plurality of sensor inputs (50,52,54,56,58,60,62;figure 2)** for receiving input regarding **operating parameters of a compressor (column 7,lines 31-45)** ; at least one **control action output (column 8,lines 26-34)** for sending a control action to the compressor; and a **control member (70,48,figure 2)** communicated with the **plurality of sensor inputs (column 7,lines 28-33;figure 2)** and the control action output, **the control member (70,48,figure 2)** being adapted to analyze input from the plurality of sensor inputs (**column 7,lines 28-33;figure 2**) , to determine a control action based upon the input and to send the

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control action to the at least one **control action output (column 8,lines 8-34)** ,wherein the control action includes actions for **immediate protection**, wherein a control action to **shut down the compressor (column 8,lines 31-34)** is issued ,and control actions for **prognostic protection**, wherein a signal indicating that maintenance is needed is issued while the compressor is continued to be operated (**column 10,lines 39-47 and column 12,lines 30-33**) , **the control member (70,48,figure 2)** is adapted to receive input comprising compressor discharge pressure, compressor discharge temperature, compressor suction pressure, compressor suction temperature, oil pressure and a compressor on/off input signal (**clearly shown in figure 2 and discussed in column 7,lines 28-45**) ,**the control member (70,48,figure 2)** includes a **memory (column 8,line 3)** storing a plurality of potential control actions, a plurality of adjustable operating parameters and a plurality of sensor input value combinations corresponding to the plurality of potential control actions, and a processor adapted to compare the input to the sensor input value combinations and select the control action from the plurality of control actions (**clearly discussed in column 8,lines 9-20**) ,the plurality of potential control actions includes a **compressor shut down command (column 8,lines 30-34column 10,lines 10-16)** ,operation parameter adjusting commands and commands indicating that maintenance is needed (**column 10,lines 39-48**) ,wherein the control member is further adapted to store information regarding at least one of

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sensor input values **(column 8,lines 1-15)**,the control action and the commands indicating that maintenance is needed in the memory **(column 12,lines 18-33)**,the apparatus further comprising a system control box for receiving the control action from the control action output and for enacting the control action on the compressor **(figure 2 and column 8,lines 21-34.The system control box can be 48 or just 64 which receives control action from controller action output 70 and for enacting the control action “on/off” on the compressor) .**

4. In re claims 6 and 7 Street et al disclose an intelligence control for refrigeration system including:

- A communication member associated with the control member and adapted to allow communication between the control member and a remote location **(column 10,lines 43-44)** ,wherein the plurality of control actions includes a command to issue a signal through the communication member **(column 8,lines 47-50) .**

5. In re claims 17-21 ,23,39 and 40 the claimed method is inherent to the apparatus of Street et al because under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claims, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324,231

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6. In re claims 24,26-29, 30,31,32,41,42 Street et al disclose an intelligence control for refrigeration system including:

- A **compressor (14A)** , **figures 1 and 2**; and a **control module (48)** comprising a **plurality of sensor inputs (from 50,52,54,56,58,60,62;figure 2)** for receiving input from the compressor; at least one control action output **(column 8,lines 26-34)** for conveying control actions to the compressor; and a **control member (70,48,figure 2)** communicated with the plurality of sensor inputs and the control action output, the control member being adapted to analyze input from the plurality of sensor inputs **(column 7,lines 28-33;figure 2)** , to determine a control action based upon the input and to send the control action to the at least one control action output, wherein the control action includes actions for immediate protection , wherein a control action to shut down the compressor is issued **(column 8,lines 31-34)** , and control actions for prognostic protection, wherein a signal indicating that maintenance is needed is issued while said compressor is continued to be operated **(column 10,lines 39-47 and column 12,lines 30-33)** , a **plurality of sensors (50,52,54,56,58,60,62;figure 2)** associated with the compressor and connected to the sensor inputs ,the plurality of sensors comprises sensors for measuring compressor discharge pressure, compressor discharge temperature, compressor suction pressure, compressor suction temperature, oil pressure and compressor on/off input signal **(clearly shown in figure 2 and discussed in column 7,lines 28-45)** ,the control member includes a memory **(column 8,line 3)** storing a plurality of potential control actions and a

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plurality of sensor input combinations corresponding to the plurality of potential control actions, the apparatus further comprising a **system control box** for receiving the control action from the control action output and for enacting the control action on the compressor (**figure 2 and column 8,lines 21-34.The system control box can be 48 or just 64 which receives control action from controller action output 70 and for enacting the control action “on/off” on the compressor**) , the **control member (70,48,figure 2)** is adapted to store information regarding at least one of the input and the control action in the memory, the system further comprising a communication member associated with the control member and adapted to allow communication between the control member and a remote location (**column 10,lines 43-44**) ,wherein at least one control action includes a command to issue a signal through the communication member (**column 8,lines 47-50**)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 22 is rejected under 35 U.S.C 103(a) as being unpatentable over Street et al (6332327).

9. In re claim 22 Street et al disclose the claimed invention except mentioning

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that the input is obtained from sensors positioned about 1 foot of the compressor. However Street et al clearly teach that the sensors can be located other than in the shell such as at external locations (column 7,lines 55-63).Therefore it would have been obvious to one skilled in the art at the time the invention was made to properly locate the sensors on the compressor apparatus while ensuring that the signals are properly transmitted (the distance merely depends on the signal strength received and the type of the sensors used).

Response to Arguments

10. Applicant's arguments filed April 22,2010 have been fully considered but they are not persuasive.

11. In re claim 1 applicant on page 1 ,paragraph 4 argued that the cited passages in the office action do not appear to indicate prognostic but rather are immediate shutdown. Examiner respectfully disagrees.

Street et al in column 10,lines 39-47 and column 12,lines 30-33 clearly disclose that if a problem exists an alarm can be activated by the controller to alert the appropriate persons that the problem exists and that the information can be accessed by a technician via a suitable interface or a remote internet connection and be able to know immediately the nature of the problem for more efficient **troubleshooting** . Street et al further noted that this control feature allows the controller to make other adjustments in the system and to **monitor trends for use in failure prediction**. All standard English dictionaries define the word prognostic to mean “to foretell or to predict”, such as predicting a disease

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by diagnosis. The applicant is also consistent when using the word in the claims “control actions for **prognostic protection**, wherein a signal indicating that maintenance is used is issued while said compressor is continued to be operated. In short it is a **Condition Monitoring** of the compressor. Thus it is clear that **monitoring trends for use in failure prediction** as discussed by Street et al above is a prognostic protection. I, the Examiner, also have been certified in Engine Condition Monitoring commonly known as ECM II. I have been practicing daily monitoring of aircraft jet engines using ECM II computer program by **monitoring trends (such as exhaust gas temperature, speed etc) for use in failure predictions** and thus to schedule engine maintenance **for prognostic protection**. In short the phrase “**prognostic protection**” and “**monitoring trends for use in failure prediction**” have been used synonymously by those skilled in the art.

Conclusion

12. Accordingly **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

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1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday, 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Amene S Bayou/

